



The impact of heat waves on mortality in seven major cities in Korea

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Abstract:

BACKGROUND: Understanding the health impacts of heat waves is important, especially given anticipated increases in the frequency, duration, and intensity of heat waves due to climate change. **OBJECTIVES:** We examined mortality from heat waves in seven major Korean cities for 2000 through 2007 and investigated effect modification by individual characteristics and heat wave characteristics (intensity, duration, and timing in season). **METHODS:** Heat waves were defined as \geq Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2 consecutive days with daily mean temperature at or above the 98th percentile for the warm season in each city. We compared mortality during heat-wave days and non-heat-wave days using city-specific generalized linear models. We used Bayesian hierarchical models to estimate overall effects within and across all cities. In addition, we estimated effects of heat wave characteristics and effects according to cause of death and examined effect modification by individual characteristics for Seoul. **RESULTS:** Overall, total mortality increased 4.1% [95% confidence interval (CI): -6.1%, 15.4%] during heat waves compared with non-heat-wave days, with an 8.4% increase (95% CI: 0.1%, 17.3%) estimated for Seoul. Estimated mortality was higher for heat waves that were more intense, longer, or earlier in summer, although effects were not statistically significant. Estimated risks were higher for women versus men, older versus younger residents, those with no education versus some education, and deaths that occurred out of hospitals in Seoul, although differences among strata of individual characteristics were not statistically significant. **CONCLUSIONS:** Our findings support evidence of mortality impacts from heat waves and have implications for efforts to reduce the public health burden of heat waves.

Source: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3339449>

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Temperature

Temperature: Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

Urban

Climate Change and Human Health Literature Portal

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: South Korea

Health Impact:

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Morbidity/Mortality, Respiratory Effect

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Children, Elderly, Low Socioeconomic Status

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content